The Federal-Aid Secondary Program and the Counties

C. M. Nelson
Editor, *Better Roads,* Chicago, Illinois

We have been experimenting with the idea of federal aid for secondary roads as a fixed policy of our national government for some 10 years. It has taken a longer time than that to come to the conclusion that the federal government has a proper continuing interest in the development of roads beyond the limits of the federal-aid primary system, and some people are not convinced of it yet.

The federal-aid highway act of 1944 for the first time provided funds in sufficient amount to focus sharp and nation-wide attention on the character of the program to be developed, and on the administrative policies that would prevail in its formation. The questions we all began to ask were of two kinds. First, we wondered about the kinds of projects that would be built and how they would be selected. And then we wanted to know about such things as who would be responsible for the design and construction of improvements, who would provide matching funds and who would finally own the roads built under this program.

These were questions to be answered partly in Washington, partly in the state capitals, and partly by local units of government. The law said simply that secondary funds were to be spent on systems of principal, secondary, and feeder roads selected in cooperation with local road officials. In its subsequent rules and regulations, the Public Roads Administration affirmed two main principles. First, the state highway departments were to be the go-betweens in all matters concerning local roads and local road officials. Second, the secondary systems were to consist of interconnected roads chosen with prudent regard to ability to improve the mileage involved within a reasonable period of years, and to maintain it adequately.

These were the basic controlling policies laid down in Washington. In the development of state programs within this rather spacious framework, a considerable measure of latitude was left to the states. We shall see a little later on how largely the states have availed themselves of this flexibility. In my judgment the Public Roads Administration

acted wisely in leaving major policy decisions up to the states—particularly decisions involving questions of administration. This approach recognizes that among the 48 states we find vastly different highway histories, a variety of "domestic" relationships between state and local highway agencies, and varying levels of state and local competence.

Although no complete evaluation of the secondary program can be made now, we are reasonably certain of the things we will want to know about the program once it has grown out of the infant stage. First, we will want to measure the program in terms of physical accomplishment: we will want to know how successful it has been in meeting community transportation needs. Second—and equally important—we are going to ask what influence it has had on long-range community planning, on the quality of local road administration, and even on the operations of local government generally.

The Program at the End of 1946—An Overall View

To begin with, I think that we should have before us some facts about the program nationally. For this purpose the Public Roads Administration has very kindly made available to me the results of a comprehensive survey bringing the record down to the end of 1946.

At the end of the year the PRA had approved approximately 324,000 miles for inclusion in the federal-aid secondary systems of the 48 states. That is a little more than 10 percent of the total mileage of rural roads in the United States. The approved mileage consisted of 142,000 miles of state highways and 182,000 miles of county or other local roads. (A small part of the 182,000 miles consists of county roads that were transferred to state jurisdiction in a few states.) The PRA says that it is encouraging the selection of additional mileage in a number of states to round out systems adequate for programming projects six to eight years ahead; this may add more than 100,000 miles to the system.

Most states have followed a formula of some kind, either rigidly or as a guide, in distributing the secondary mileage geographically. It is not surprising that the factors entering such formulas are varied. A review covering 40 states shows that the factor of area, either total or rural, appears 31 times; rural population, 29 times; vehicle-miles of travel on the entire system of rural roads or parts of it, 24 times; mileage of rural roads, 19 times; vehicle registrations, eight times; property valuation, seven times; value of farm products, six times; and number of farms, five times.

The PRA reports that only 26 states distribute funds by formula, and that in about half these states the formula is different from the mileage formula. Factors that appear most often are population, mileage of rural roads, and area. Three states are dividing funds equally among the counties. In the remaining 19 states, the plan of allocation is not rigidly fixed.

How are federal allotments being matched? The state furnished all 1946 matching funds in 29 states, and the counties in two states. In the remaining 17 states, both state and county matching funds were used. County-supplied funds comprised 23 percent of all funds put up to match federal money in 1946, and will probably make up 25 percent in 1947. Very little county money, the PRA observes, is being used for projects on state systems, and funds from state tax sources are being used for projects on county roads in substantial amount.

What about actual county participation in the program? The PRA reports that the signs are encouraging. More than 900 counties in 24 states have participated to some degree in the engineering work involved. That is roughly one-third of the total number of the counties in the United States carrying on road work. As we might expect, the extent of county participation varies widely among the states. All counties participating in the engineering work make surveys and prepare plans; 500 of them prepare specifications and estimates.

With few exceptions, the work is being carried out by the contract method. The average cost per mile, leaving out bridges, is approximately $13,000. The average cost per mile is less than $10,000 in about one-sixth of the states, and less than $25,000 in more than two-thirds of the states. At the end of last year, nearly 90 percent of the federal funds for the fiscal year 1946 and more than one-third of the funds for 1947 had been committed to specific projects.

Taking that $13,000 per mile, and assuming that continuing appropriations will be made and spent at the level established in the 1944 act, the 324,000 miles of road included in the present approved system could be constructed or reconstructed in roughly 14 years. This does not take account of the cost of constructing bridges. And, of course, the pace would be affected by increases or decreases in unit costs of performing highway work.

Widely Varying State Approaches—A Glance at Eight States

So much for the over-all view. Since the states have approached the program so variously, I think that we should have a little closer look at the elements of some individual state programs. I should like to

review briefly the programs of eight states that have been selected to exhibit the exceedingly great diversity that characterizes the program as a whole. These states are Alabama, California, Illinois, Kansas, Michigan, Montana, Tennessee, and Texas.

Mark Twain once said that few things are harder to put up with than the annoyance of a good example. My specimen state programs are offered here with no attempt at any indication of relative merit, which would be necessarily subjective, and nearly impossible now anyway; they are examples only of widely contrasting approaches.

Alabama. The approved system includes 1,330 miles of state highways and 4,530 miles of county roads. Federal-aid funds for counties are distributed equally among the counties. The state and the counties share in matching funds for county work under a plan that permits a county to carry on a three-year program totaling $225,000 by putting up $37,500 of its own money. There is active county participation in the federal-aid program, which is tied in with a recently established state-aid program calling for engineering supervision and long-range planning. Work is done by contract, although county forces are used extensively on the state-aid program. Up to December 1, 1946, contracts had been awarded on 27 projects.

California. The system is made up of 3,700 miles of state highways and 5,180 miles of county roads. County systems are allocated 87½ percent of the state's federal-aid secondary funds, and distribution among the counties follows the pattern of the federal-aid act. The state provides matching funds. The counties are encouraged to prepare their own plans and estimates, and to supervise construction, which is handled by contract. Some counties that do not employ engineers have retained consulting engineers; others have requested the state to handle engineering and supervision. The state advertises projects and awards contracts. Design standards vary widely; costs per mile range from about $10,000 to $80,000. At the end of 1946 the state had awarded 16 contracts for the construction of 110 miles of road, costing $2,900,000, and four bridges, costing $340,000.

Illinois. The system consists wholly of 7,030 miles of county highways or township roads that will probably be transferred to the counties. Matching funds are provided half by the state and half by the counties. Funds will be distributed among the counties one-tenth equally and nine-tenths on the basis of area, rural population, and mileage of rural roads. Design and supervision of construction will be handled by the county superintendents of highways, or by consulting engineers. Some projects may be constructed by county forces. Early

in January no contracts had been awarded, although 1946-program projects estimated to cost $1,532,000 had been given program approval by the PRA. Formulation of the 1947 program is nearly complete. Projects included in the 1946 program are estimated to range in cost from $16,000 to $70,000 a mile.

Kansas. The secondary system is made up of 1,140 miles of state highways and 14,120 miles of county and other local roads. Matching money comes from the proceeds of a special one-cent gasoline tax. Kansas is another state that has encouraged handling of county work with county engineering forces, though depleted engineering personnel has been an obstacle here, as elsewhere. As of December, 1946, planning was fairly wll advanced, and contracts had been awarded for the construction of 770 miles of road and 22 bridges in 56 of the state's 105 counties, at an estimated cost of $3,000,000. In addition, 19 counties had negotiated for the construction of 28 projects with their own forces.

Michigan. This system includes 3,270 miles of secondary state trunk lines and 8,060 miles of county roads. By agreement, the state receives 27 percent of the federal-aid secondary allotment, and the counties receive 73 percent. Funds are allocated to counties on the basis of county road mileage, area, and population. Matching funds for projects on state routes are provided by the state, and for projects on county roads by the county road commissions, from regular county funds. Plans, specifications, and estimates for county projects are prepared by county engineers. The state receives bids, and makes awards with county approval. County personnel is directly in charge of construction supervision. With minor exceptions, the program is a contract program. Altogether, work involving approximately $2,500,000 was under way by the end of December. Estimated costs per mile ranged from $5,900 to $12,200, exclusive of bridges.

Montana. The approved system is made up of 2,940 miles of county roads. Matching funds are provided by the state. Plans, specifications, and estimates will be prepared by the state, and the state will supervise construction. The major part of the work will be let to contract, although county forces may be used for some construction. The average cost is estimated at $15,000 a mile.

Tennessee. The system includes 2,610 miles of state highways and 2,940 miles of county roads. Funds are apportioned to the counties in the same manner as federal-aid funds are apportioned to the states, and the state supplies matching funds. Plans, specifications, and esti-

mates are, in general, prepared by the state highway department; a few counties have made surveys and partial plans. Construction is supervised by the state. Only one county has arranged to carry on work with its own forces. Types of construction will range widely, and the program will be largely one of stage construction. County roads will have roadway widths of 24 to 28 ft., with mostly 18-ft. surfaces. At the end of 1946, 102 miles of county road was under contract, at an average cost of $10,500 a mile. The lowest cost of a project was $3,650 a mile.

Texas. The approved system consists of 10,520 miles of state highways and 6,600 miles of county roads that come under state jurisdiction as they are improved. Matching funds are provided by the state. County participation in Texas has been confined to initial concurrence in the selection of routes and furnishing of right-of-way. Texas hasn't wasted much time in getting work under way. Up to December, 1946, work involving 1,973 miles of construction and costing $18,520,000 had been placed under contract, and 346 miles of construction had been completed, at a cost of $2,480,000.

Appraising the New Partnership—The County Point of View

It has been said many times that the federal-aid secondary program founded a new partnership—a partnership of federal, state, and local highway officials. It is natural to want to know how the partners feel about each other and about the joint enterprise; and I think we are particularly interested in the opinion of county officials, who may be thought of as the "junior" members of the firm. I am going to risk such an appraisal on the basis of particular inquiry in the eight states whose programs we have reviewed, supplemented by varied soundings and samplings taken over a wider area. You will understand that a survey of this kind, undertaken at this stage, is essentially a kind of reconnaissance, made without precision instruments; we will have more clear-cut and better-founded opinions as time goes on.

What do county officials in the eight sample states think about the federal-aid secondary program? The prevailing feeling in these states is that so far the program has been satisfactory and beneficial from the standpoint of roads selected, standards of improvement, and general conduct. That is a great deal to say, I think, for a new venture.

What I have just said reflects mostly the judgment of county officials who are participating actively in the program. As for the rest, I doubt that any attempt to generalize would be worth while. I sup-

pose that some county officials are happy to be relieved of responsibility for roads, whether or not there is any rational reason for the transfer of road mileage or duties in connection with it to some other agency. I think that they are in the minority. I think we will have to admit that one strong reason for lack of participation is that many counties have in the past failed, for one reason or another, to put their road work under engineering direction. In my opinion that is an unsatisfactory state of affairs, but it is one that a federal-aid program all by itself could not rectify.

I think it would be regrettable if the administrative pattern established at the start of the program should be considered an inflexible one—if counties presently inactive should be forever excluded from participation. Although other measures are needed, as indicated later, I believe that in states where the development of capable county highway organizations has not proceeded uniformly, the state highway departments themselves should play a strong role in encouraging the more progressive counties, whose accomplishments under the program might have a tonic effect on their neighbors.

There are some complaints about red tape, details, and standards, but they are far less numerous than those we heard during the late 1930's, and they are not pitched in so high a key. I think that for the most part, county officials feel that design standards have been flexible enough to allow the development of programs filling genuine community needs. Confinement of the work to a system of principal secondary roads has created some rather knotty problems, falling mostly in the domains of public relations and planning.

We are all more or less aware that some rural people had awaited a federal-aid secondary program rather different in character from the program designed in accordance with the language of the law. Some rural dwellers had looked for less expensive improvements, more widely dispersed. Discussion of the proper basic aims of a program of federal aid for secondary or feeder roads would run into a consideration of social objectives that is beyond the scope of this paper. What I want to bring out here in part is that whatever their own views may be, local officials have to weigh and answer the petitions of all citizens of the communities they serve.

There are counties that in the nature of things are confronted with difficult choices. For example, one southern Michigan county has virtually completed a system of county trunk roads. The county engineer believes that he is duty bound to put major stress in the years just ahead on improving low-traffic roads to all-weather standards. The

work involved he describes as "glorified maintenance". It does not fall on a system of principal county roads, and it can be done economically only by county forces. This engineer is presently spending his federal aid for bridges on the federal-aid secondary system, but he is wondering what he is going to do after the bridges have been built.

A reasonable solution to the problems of individual counties appears to have been found in the state of Iowa, where designation of a secondary system including approximately 35 percent of the state's entire secondary mileage has provided for considerable flexibility in the development of programs meeting essential county needs.

County officials who are participating actively in the program in the states under review have praised, almost without exception, the cooperative spirit of the state highway departments. A representative comment comes from a Kansas county engineer: "We have received the very closest and fullest cooperation from the state highway commission in the selection of the system, in planning and in construction. The state has been extremely liberal with respect to standards of improvement and the choice of routes to be improved." Where a basis for real cooperation has been arrived at, the cooperation has been very, very good.

In most cases, the program has moved slowly, and we all know the reasons for that. Materials and personnel have been scarce, and contract prices have been high. Some county officials are definitely of the opinion that they would get more for their money by doing the work with their own forces. In some of the states, preliminary negotiations between state and county officials occupied more time than had been anticipated. Nevertheless there is a rather prevalent feeling that a significant start has been made, although in few of the states is it likely that all 1946 funds will be taken up by the deadline of June 30, 1947. However, as most of you know, Congress may act to extend the time limit by one year.

Federal Aid in the Whole County Highway Picture: Some Reflections

Before we leave the federal-aid secondary program, I think that we should stand off to try to see it in a wider perspective, and that we should look ahead a little. Activity in connection with the federal-aid secondary program will form, of course, only part of the total activity of any county highway organization. County highway departments are going to continue to build and maintain roads with their own funds,

and with funds returned from the state capital as the major part of their work. Yet it is the potential of the federal-aid program that is really significant. It ought to set in motion some very hard thinking about responsibilities and opportunities on the part of county officials—and of state officials too. I am thinking of responsibilities and opportunities of four kinds.

1. Some state highway officials have said that in sitting down with county officials to select systems of principal secondary roads, they felt that they were carrying a new gospel of planning to the counties. I don't doubt that they were, and I think that it is regrettable. What I mean by this is that the counties should have been ready with most of the planning themselves. Some of them were, of course. Many counties in the United States have developed long-range highway plans to guide the formation of annual work programs. Every county should have a plan. Charting the development of the entire county road system to best serve people's needs is a much larger task than selecting a system of principal secondary roads. County officials must avail themselves of the tools and techniques the state highway planning surveys are ready to offer them; they must begin to assemble and use, if they haven't already, basic information on community resources, growth, and needs.

2. The federal-aid secondary program should make participating counties pay closer attention to financial planning, and to evaluation of the benefits resulting from particular improvements and classes of improvements. The program has created new obligations and the necessity for making new decisions. Budgeting and forecasting of income from all sources take on added importance. County officials must use the economic and social values of improvements as a basis for making and correcting decisions.

3. So far I haven't said much about the counties that are not taking part directly in the federal-aid secondary program—about the counties that are participating in a passive way, or are mainly spectators. I am convinced that active participation of county highway organizations in the program is beneficial to the counties, and to the program as a whole. If it is good for some of the counties, it should be good for the rest. If it turns out that the non-participating counties never become active partners, then I suppose we shall have to say that so far as its influence on the quality of county highway administration is concerned, the program will have benefited least the counties that most need to raise engineering and management standards.

Why are so many of the counties on the sidelines? I suspect that there are many reasons. Perhaps the counties have been inert. Possibly some state highway departments have been apathetic. One reason is surely, as I have pointed out, that in some states the average county is not staffed to handle the work. Some elected county officials are laboring under the misconception that a county engineer is a "luxury" they can't afford. Sometimes basic defects in the local highway administrative structure make it difficult or impossible to place an engineer in charge of county road work.

Now, if the federal-aid secondary program is going to benefit county road administration more widely, it is clear that the way must be prepared for it. The first step in developing vigorous, effective, and self-reliant county highway organizations is to enact state legislation establishing the conditions favorable to their existence. The job, where it needs to be done, is one for state legislative bodies, state highway departments, and the counties themselves. The mere establishment of the office of county engineer will not entirely solve the problem. Responsible leadership must be provided by the more general extension, through the state highway departments, of qualified advice and assistance in a cooperative and non-coercive manner.

4. The federal-aid secondary program has unquestionably brought state and county highway agencies closer together. The program has helped speed up what seems to me to be an inevitable trend—and one that need frighten no one. Here again, there is great variation among the states. We have some very fine county divisions in state highway departments, which serve as coordinating agencies in all matters of common interest; I commend them to the study of state highway departments and county officials in states that haven't come quite as far along the road.

One last word. If this paper has dwelt at some length on the question of county participation, it is because of my strong conviction that the long-term benefits of the program will be greater in the states where counties are active partners than where they are largely bystanders. Some changes in the structure of county road administration will be necessary if that hope is to be realized, but they are changes that in my opinion should be made anyway. If I can read the signposts clearly, in that direction lies the hope for the most enduring and satisfactory partnership of all the agencies concerned.